

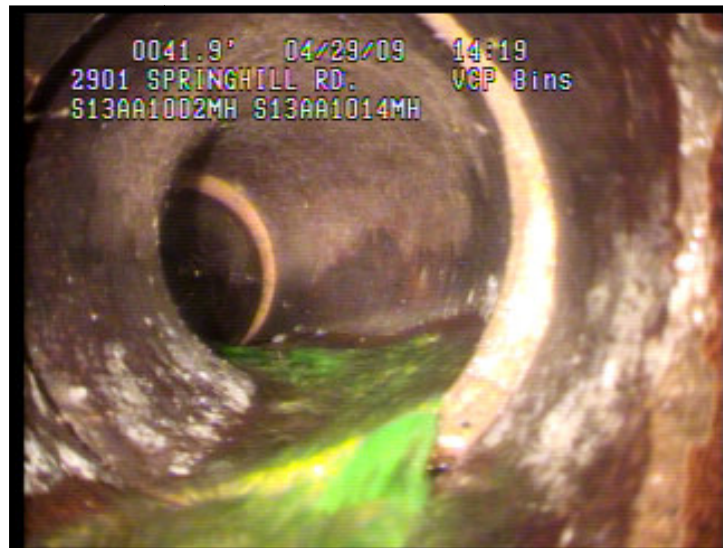


SMOKE & DYED WATER TESTING DATABASE HIGH LEVEL SEWERSHED BALTIMORE CITY PROJECT 1028



**Microsoft Access Database
Users Guide for Dye Testing Data Entry**

**May 2009
Version 1.1**



The information contained in this manual is not intended to address or account for all situations or circumstances encountered, rather it provides the user with general guidelines of the procedures to be followed for Dyed Water Testing in the High Level Sewershed.



**BALTIMORE HIGH LEVEL SEWERSHED
SMOKE TESTING PROCEDURES
PROJECT #1028
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I. Introduction

The Smoke & Dyed Water Testing Database is designed to facilitate the population of smoke and dye testing information, observation data, and photograph records according to the database schema and specifications outlined in Version 08.03 of the Smoke and Dyed Water Testing section of the Baltimore Sewer Evaluation Standards (BaSES) Manual (Appendix 6-6). The database forms and tables automatically populate the Test ID, Observation ID, Photo ID, and Photo Filename fields per BaSES specifications, allowing the user to focus on entering the data gathered in the field for each dye test.

All dye testing data is compiled into one form “frmData_Entry_Dye” in the Smoke & Dyed Water Testing database. The “frmData_Entry_Dye” includes a header section where general test information is entered as well as the following two tabs: Observations/Photos and Field Inspection Report. The following table lists the components of the dye data entry form with the fields contained in each and additional information on how the application manages each field.

Header		
Field	Read-Only	Remark
Test ID	Yes	Field is automatically populated when a new record is created
Test No.	Yes	Field is automatically populated after the Test has passed QC and is ready for processing to meet BaSES specifications
Test Type	No	User must select the type of test performed from a combo box
Inspection Date	No	User must select the test date. The database provides a calendar from which the date is selected.
Company/Inspector	No	User must enter the company name and the inspector’s initials
Ground Condition	No	User must click on the appropriate button; choosing from “dry” “damp” or “wet”
Nearest MH	No	User must select the plat where the manhole is located from the “Current Plat” combo box. This populates the “Nearest MH” combo box with all manhole IDs within the selected plat. User must then select the correct manhole ID. The application allows only valid manhole IDs per Baltimore’s wastewater manhole naming convention.
Address	No	User must enter the nearest street address to the location where the dye is introduced
Location	No	User must select the location of the suspected I/I source from a combo box
Source	No	User must select the source type of the suspected I/I source from a combo box

Status	No	User must select the property type of the suspected I/I source from a combo box
Observations/Photos Tab		
Field	Read-Only	Remark
Nearest MH	No	User must select the plat where the nearest manhole is located from the “Current Plat” combo box. This populates the “Nearest MH” combo box with all manholes IDs within the selected plat. User must then select the correct manhole ID.
Comment	No	User supplied
Path of Picture	No	Automatically supplied link to the location where the photo is saved based on the selection of the photo
Picture Caption/Notes	No	User supplied
Field Inspection Report Tab		
Field	Read-Only	Remark
Path of Sketch	No	Automatically supplied link to the location where the electronic version of the field sketch is saved based on the selection of the sketch

II. Opening the Database

When the database is opened, the navigation form is automatically displayed as shown in Figure 1. This form allows the user to choose the action to be completed: enter smoke test data, enter dye test data, process data for compliance with BaSES specifications, or exit the database. The database opens the appropriate form based on the user’s selection or closes all forms if “exit” is chosen.

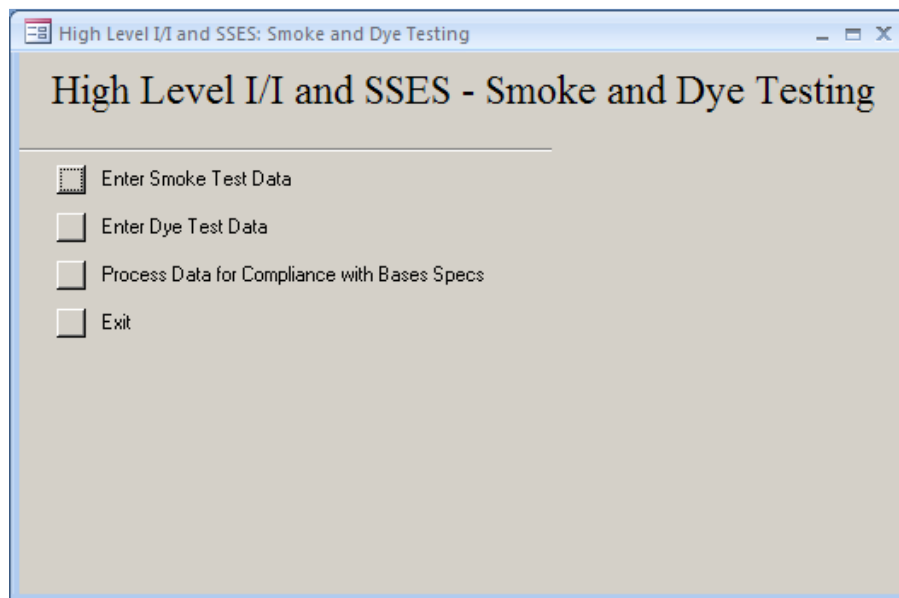


Figure 1 – Navigation form

III. Adding a Test to the Database

Click the “Enter Dye Test Data” button on the Navigation form. The database will automatically display the “frmData_Entry_Dye” form for data entry.

Click the “Add New Test” button to generate a new test entry as shown in Figure 2. The user can then begin entering the dye test data into any of the user-editable fields. As soon as the user begins typing, the dye testing form fills in the Test ID field with the next sequential test number. Note: The Test Number field is not populated with the BaSES formatted ID until the test has passed QC review. This ensures that test numbers per BaSES specifications will remain sequential even if a test fails QC and must be deleted from the database.

The screenshot displays the 'Smoke and Dye-water Testing: Data Entry Form'. The form is divided into several sections. At the top, there are fields for 'TEST TYPE' (a dropdown menu), 'Inspection Date', 'Company/Insp' (a dropdown menu), and 'Current Plat' (a dropdown menu). Below these are 'Public Notified' (Yes/No buttons), 'Test ID' (a text field with '(New)' in parentheses), 'Test No' (a text field), 'ADDRESS' (a text field), 'Location' (a dropdown menu), 'Ground Condition' (Dry/Damp/Wet buttons), 'Nearest MH' (a dropdown menu), 'Source' (a dropdown menu), and 'Status' (a dropdown menu). A 'Plat Selector' table is also present, showing a grid of plat numbers (07-UU, 09-UU, 11-UU, etc.). The bottom section is titled 'Observations / Photos' and 'Field Inspection Report'. It contains a large text area for 'Observation at:', 'Address', 'Property Type', 'Nearest MH', 'Comment', and 'Location'. There are 'Add Obs' and 'Delete Obs' buttons. To the right of this section is a 'Picture Captions / Notes' area with a text field, a '...Click to select photo' button, a 'Path of Picture' text field, and 'Add Picture' and 'Delete Picture' buttons. On the far right, there is a vertical column of buttons: 'View Report', 'Add New Test', 'Delete Test', 'Close Form', and 'Exit Application' (in red). At the bottom of the form, there is a status bar showing 'Record: 1 of 1', 'No Filter', and a 'Search' button.

Figure 2 – Dye test form for new test data entry

The user should begin by entering data in the header portion of the form, and then proceed with data entry for the Observations/Photos tab.

IV. Adding an Observation

Click on the Observations/Photos tab of the form to enter information about each observation associated with the test. The user can begin typing information about Observation 1 directly into the fields provided. If additional observations must be populated, click the “Add Obs” button and another observation record will appear. Note: the Observations/Photos tab for the Dye Testing Form has an identical format to the Observations/Photos tab in the Smoke Testing Form. In the Dye Testing Form, the fields that are not applicable are simply “grayed out” so that information cannot be entered into these fields erroneously.

V. Adding a Photo

The first photo associated with each observation can be added directly to the photo portion of the Observations/Photos tab. The “Click to select photo” button allows the user to navigate to the directory and folder where the photo is saved. If more than one photo is taken for an observation, click the “Add Picture” button and another photo record will appear. Figure 3 shows the Observations/Photos tab with the information properly populated.

Smoke and Dye-water Testing: Data Entry Form

TEST TYPE: Inspection Date: Current Plat:

Public Notified: Company/Insp: / Ground Condition:

Test ID: Nearest MH:

Test No: Source: Status:

ADDRESS: Location:

Plat Selector

07-UU	09-UU	11-UU
07-SS	09-SS	11-SS
07-QQ	09-QQ	11-QQ

Observations / Photos | Field Inspection Report

Observation at:
Address:
Property Type:
Nearest MH:
Comment:
Location:

Add Obs Delete Obs

Picture Captions / Notes

Pipe in wall of manhole S11GG_040MH.

...Click to select photo

Path of Picture

D:\1028-169-OB04-P01.jpg

Add Picture Delete Picture

Record: No Filter Search

Record: No Filter Search

View Report
Add New Test
Delete Test
Close Form
Exit Application

Figure 3 – Observations/Photos Tab

VI. Adding a Field Sketch

Click on the Field Inspection Report tab to import the electronic version of the test set-up field sketch into the database. The “Click to select sketch” button allows the user to navigate to the directory and folder where the field sketch is saved. Figure 4 shows the Field Inspection Report tab with the information properly filled out.

The screenshot shows a software window titled "Smoke and Dye-water Testing: Data Entry Form". The "Field Inspection Report" tab is selected. The form contains the following fields and controls:

- TEST TYPE:** D (dropdown)
- Inspection Date:** 4/28/2009
- Current Plat:** (dropdown)
- Public Notified:** Yes (selected), No (button)
- Company/Insp:** ADS (dropdown) / TM (text)
- Ground Condition:** Dry (selected), Damp (button), Wet (button)
- Test ID:** 169
- Test No:** D1028-169
- Nearest MH:** S11GG_021MH (dropdown)
- Plat Selector:** A grid of buttons: 07-UU, 09-UU, 11-UU, 07-SS, 09-SS, 11-SS, 07-QQ, 09-QQ, 11-QQ.
- ADDRESS:** 1603 Bloomingdale Road
- Source:** Storm Manho (dropdown)
- Status:** Public (dropdown)
- Location:** Paved asphalt (dropdown)
- Observations / Photos / Field Inspection Report:** Tabbed interface with "Field Inspection Report" selected.
- Map:** A street map showing the test area with a green line indicating the "Path of Sketch".
- ...Click to select sketch:** A button to open a file selector.
- Path of Sketch:** sketches\d1028-169_field (text field)
- Actions:** View Report, Add New Test, Delete Test, Close Form, Exit Application (red text).
- Footer:** Record: 11 of 12, No Filter, Search.

Figure 4 – Field Inspection Report Tab

VII. Deleting a Record

The data entry form contains buttons to delete a test, observation or picture if it is erroneously added to the database. The user must simply click the appropriate button to erase the record from the database.

VIII. Viewing a Report

The data entry form includes a button to view the final report for a dye test. The user must simply click “View Report” and the final report containing test set-up information, observation

data, and photograph records will display. The final report can then be saved as a PDF document. See Appendix D for an example of a Dye Testing Report.

IX. Processing Data per BaSES Specifications

The Navigation form includes a button entitled “Process Data for Compliance with BaSES Specifications.” This button should only be utilized after tests have passed the QC review process. Figure 5 shows the form that is displayed when clicking this button.

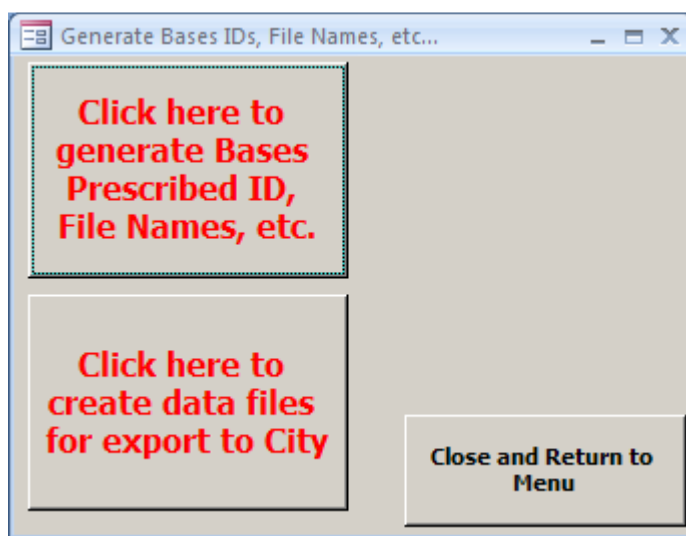


Figure 5 – Data Processing per BaSES Manual

The top left button should be clicked to generate all IDs and filenames per the specifications outlined in the BaSES Manual. When this processing is complete, the database will display a text box which states “Smoke and Dye data processed as per BaSES Specifications.”

Note: The database will only process those tests which have been given a check mark in the Approved For City column of the Test Table. This action is completed during QC review.

The bottom left button of the Data Processing form should be clicked to generate a separate database for delivery to the City of Baltimore. This process creates a database which includes only those tables and fields outlined in the BaSES Manual, and adheres to the field names, data types, and field lengths specified in the BaSES Manual. This database is populated with data from the Smoke and Dyed Water Testing database. All tests which have been Approved For City during the QC review are populated in the database for City delivery. Figures 6, 7, and 8 show the Test, Observation, and Photo tables as they appear in the City delivery database.

Test_ID	Test_Type	MANHOLE_ID	Date	Report	SubmissionID
S1028-151	S	S15C_014MH	20090413	S1028-151.pdf	1028-047i
S1028-152	S	S15C_028MH	20090413	S1028-152.pdf	1028-047i
S1028-153	S	S13A_004MH	20090413	S1028-153.pdf	1028-047i
S1028-154	S	S13A_007MH	20090413	S1028-154.pdf	1028-047i
S1028-155	S	S11QQ_007MH	20090430	S1028-155.pdf	1028-047i
S1028-156	S	S11QQ_010MH	20090430	S1028-156.pdf	1028-047i
S1028-157	S	S09QQ_006MH	20090430	S1028-157.pdf	1028-047i
S1028-158	S	S09SS_001MH	20090504	S1028-158.pdf	1028-047i
D1028-159	D	S09AA1009MH	20090422	D1028-159.pdf	1028-047i
D1028-160	D	S09YY_014MH	20090423	D1028-160.pdf	1028-047i
D1028-161	D	S07WW_010MH	20090422	D1028-161.pdf	1028-047i
D1028-162	D	S11UU_009MH	20090422	D1028-162.pdf	1028-047i
D1028-163	D	S15GG1032MH	20090427	D1028-163.pdf	1028-047i
D1028-164	D	S13EE1012MH	20090423	D1028-164.pdf	1028-047i
D1028-165	D	S13EE1016MH	20090423	D1028-165.pdf	1028-047i
D1028-166	D	S13AA1014MH	20090429	D1028-166.pdf	1028-047i
D1028-167	D	S11GG_030MH	20090427	D1028-167.pdf	1028-047i
D1028-168	D	S11GG_021MH	20090427	D1028-168.pdf	1028-047i
D1028-169	D	S11GG_021MH	20090428	D1028-169.pdf	1028-047i
D1028-170	D	S09OO_027MH	20090428	D1028-170.pdf	1028-047i
S1028-171	S	S09QQ_019MH	20090504	S1028-171.pdf	1028-047i
*					

Record: 151 of 171 No Filter Search

Figure 6 – Test Table per BaSES Specifications

Ob_ID	Test_ID	OB_COMMENT
D1028-163-OB01	D1028-163	Dye observed 20.0 ft. downstream of S15GG1032MH. Infiltration runner at joint at 10 oclock.
D1028-163-OB02	D1028-163	Dye observed 23.0 ft. downstream of S15GG1032MH. Infiltration runner at joint at 5 oclock.
D1028-163-OB03	D1028-163	Dye observed 25.5 ft. downstream of S15GG1032MH. Infiltration gusher at joint at 1 oclock.
D1028-163-OB04	D1028-163	Dye observed 29.0 ft. downstream of S15GG1032MH. Infiltration runner at joint at 5 oclock.
D1028-163-OB05	D1028-163	Dye observed 29.0 ft. downstream of S15GG1032MH. Infiltration runner at joint at 8 oclock.
D1028-163-OB06	D1028-163	Dye observed 32.0 ft. downstream of S15GG1032MH. Infiltration gusher at joint at 10 oclock.
D1028-163-OB07	D1028-163	Dye observed 32.0 ft. downstream of S15GG1032MH. Infiltration runner at joint at 1 oclock.
D1028-163-OB08	D1028-163	Dye observed 35.3 ft. downstream of S15GG1032MH. Infiltration runner at joint at 4 oclock.
D1028-163-OB09	D1028-163	Dye observed 41.3 ft. downstream of S15GG1032MH. Infiltration runner at joint at 5 oclock.
D1028-163-OB10	D1028-163	Dye observed at 41.3 ft. downstream of S15GG1032MH. Infiltration runner at joint at 8 oclock.
D1028-163-OB11	D1028-163	Dye observed 44.5 ft. downstream of S15GG1032MH. Infiltration runner at joint at 5 oclock.
D1028-165-OB01	D1028-165	Dye observed 3.0 ft. downstream of S13EE1016MH. Infiltration runner at joint at 10 oclock.
D1028-165-OB02	D1028-165	Dye observed 11.5 ft. downstream of S13EE1016MH. Infiltration runner at joint at 9 oclock.
D1028-165-OB03	D1028-165	Dye observed 18.0 ft. downstream of S13EE1016MH. Infiltration runner at joint at 10 oclock.
D1028-165-OB04	D1028-165	Dye observed 20.5 ft. downstream of S13EE1016MH. Infiltration runner at joint at 5 oclock.
D1028-165-OB05	D1028-165	Dye observed 20.5 ft. downstream of S13EE1016MH. Infiltration runner at joint at 8 oclock.
D1028-166-OB01	D1028-166	Dye observed 41.9 ft. upstream of S13AA1002MH. Infiltration gusher from service lateral at 9 oclock.
D1028-166-OB02	D1028-166	Dye observed 100.8 ft. downstream of S13AA1002MH. Infiltration dripper at service lateral at 2 oclock.
D1028-167-OB01	D1028-167	Dye observed 13.1 ft. downstream of S11GG_030MH. Infiltration runner at joint from 5 to 7 oclock.
D1028-167-OB02	D1028-167	Dye observed 16.5 ft. downstream of S11GG_030MH. Infiltration runner at joint at 5 oclock.
D1028-167-OB03	D1028-167	Dye observed 25.7 ft. downstream of S11GG_030MH. Infiltration runner at joint at 5 oclock.
D1028-169-OB01	D1028-169	Dye observed 147.4 ft. downstream of S11GG_021MH. Infiltration runner at joint at 5 oclock.
D1028-169-OB02	D1028-169	Dye observed 147.4 ft. downstream of S11GG_021MH. Infiltration runner at joint at 7 oclock.
D1028-169-OB03	D1028-169	Dye observed in bench of S11GG_040MH.
D1028-169-OB04	D1028-169	Dye observed from pipe in wall of S11GG_040MH. Possible connection of storm drain to sanitary sewer.
S1028-171-OB01	S1028-171	Smoke from downspout connection in back yard next to stairs. 3221 Vickers Road
S1028-171-OB02	S1028-171	Smoke from lamp hole. Intersection of Alto Road & Hilton Street
*		

Record: 574 of 600 No Filter Search

Figure 7 – Observation Table per BaSES Specifications

Photo_ID	Ob_ID	Filename	Photo_Comment
D1028-163-OB01-P01	D1028-163-OB01	D1028-163-OB01-P01.jpg	20.0 ft. downstream of S15GG1032MH along S15GG1032G1.
D1028-163-OB02-P01	D1028-163-OB02	D1028-163-OB02-P01.jpg	23.0 ft. downstream of S15GG1032MH along S15GG1032G1.
D1028-163-OB03-P01	D1028-163-OB03	D1028-163-OB03-P01.jpg	25.5 ft. downstream of S15GG1032MH along S15GG1032G1.
D1028-163-OB04-P01	D1028-163-OB04	D1028-163-OB04-P01.jpg	29.0 ft. downstream of S15GG1032MH along S15GG1032G1.
D1028-163-OB05-P01	D1028-163-OB05	D1028-163-OB05-P01.jpg	29.0 ft. downstream of S15GG1032MH along S15GG1032G1.
D1028-163-OB06-P01	D1028-163-OB06	D1028-163-OB06-P01.jpg	32.0 ft. downstream of S15GG1032MH along S15GG1032G1.
D1028-163-OB07-P01	D1028-163-OB07	D1028-163-OB07-P01.jpg	32.0 ft. downstream of S15GG1032MH along S15GG1032G1.
D1028-163-OB08-P01	D1028-163-OB08	D1028-163-OB08-P01.jpg	35.3 ft. downstream of S15GG1032MH along S15GG1032G1.
D1028-163-OB09-P01	D1028-163-OB09	D1028-163-OB09-P01.jpg	41.3 ft. downstream of S15GG1032MH along S15GG1032G1.
D1028-163-OB10-P01	D1028-163-OB10	D1028-163-OB10-P01.jpg	41.3 ft. downstream of S15GG1032MH along S15GG1032G1.
D1028-163-OB11-P01	D1028-163-OB11	D1028-163-OB11-P01.jpg	44.5 ft. downstream of S15GG1032MH along S15GG1032G1.
D1028-165-OB01-P01	D1028-165-OB01	D1028-165-OB01-P01.jpg	3.0 ft. downstream of S13EE1016MH along S13EE1016G1.
D1028-165-OB02-P01	D1028-165-OB02	D1028-165-OB02-P01.jpg	11.5 ft. downstream of S13EE1016MH along S13EE1016G1.
D1028-165-OB03-P01	D1028-165-OB03	D1028-165-OB03-P01.jpg	18.0 ft. downstream of S13EE1016MH along S13EE1016G1.
D1028-165-OB04-P01	D1028-165-OB04	D1028-165-OB04-P01.jpg	20.5 ft. downstream of S13EE1016MH along S13EE1016G1.
D1028-165-OB05-P01	D1028-165-OB05	D1028-165-OB05-P01.jpg	20.5 ft. downstream of S13EE1016MH along S13EE1016G1.
D1028-166-OB01-P01	D1028-166-OB01	D1028-166-OB01-P01.jpg	41.9 ft. upstream of S13AA1002MH along S13AA1014G1 at service lateral.
D1028-166-OB02-P01	D1028-166-OB02	D1028-166-OB02-P01.jpg	100.8 ft. downstream of S13AA1002MH along S13AA1002G1 at service lateral.
D1028-167-OB01-P01	D1028-167-OB01	D1028-167-OB01-P01.jpg	13.1 ft. downstream of S11GG_030MH along S11GG_030G1.
D1028-167-OB02-P01	D1028-167-OB02	D1028-167-OB02-P01.jpg	16.5 ft. downstream of S11GG_030MH along S11GG_030G1.
D1028-167-OB03-P01	D1028-167-OB03	D1028-167-OB03-P01.jpg	25.7 ft. downstream of S11GG_030MH along S11GG_030G1.
D1028-169-OB01-P01	D1028-169-OB01	D1028-169-OB01-P01.jpg	147.4 ft. downstream of S11GG_021MH along S11GG_021G1.
D1028-169-OB02-P01	D1028-169-OB02	D1028-169-OB02-P01.jpg	147.4 ft. downstream of S11GG_021MH along S11GG_021G1.
D1028-169-OB03-P01	D1028-169-OB03	D1028-169-OB03-P01.jpg	At manhole S11GG_040MH.
D1028-169-OB04-P01	D1028-169-OB04	D1028-169-OB04-P01.jpg	Pipe in wall of manhole S11GG_040MH.
S1028-171-OB01-P01	S1028-171-OB01	S1028-171-OB01-P01.jpg	Back of house, back right corner, 3221 Vickers Road
S1028-171-OB02-P01	S1028-171-OB02	S1028-171-OB02-P01.jpg	Intersection of Alto Road and Hilton Street
*			

Record: 574 of 600 No Filter Search

Figure 8 – Photo Table per BaSES Specifications

X. System Prerequisites

The Smoke & Dyed Water Testing database requires Microsoft Access 2000 or higher software. In addition, the following References should be active in the database:

- Visual Basic for Applications
- Microsoft Access
- Microsoft Active X Data Objects
- Microsoft ADO EXT for DDL and Security
- OLE Automation
- Outlook Library